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FOR

GRANT OF LETTERS PATENT

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FOR

MUSIC TEACHING SYSTEM AND METHOD

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MUSIC TEACHING SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

(1) FIELD OF THE INVENTION

The present invention relates generally to music learning and, more particularly, to a music learning system for facilitating the learning of the structures of music and the playing of instruments.

(2) DESCRIPTION OF THE PRIOR ART

Typically, the learning of music involves the memorization of standard musical composition structure and notation. The information derived therefrom is then applied to a musical instrument to enable the execution of a musical composition. Many prior art systems have been devised to facilitate this learning.

U.S. Patents #6,057,501 and #5,540,132, issued May 2, 2000 and July 30, 1996, respectively, to Hale for *Method and Apparatus for Teaching Musical Notation to Young Children* teaches a method of musical notation that matches each musical alphabet note with different objects to which have been assigned different distinct colors. As has been done before in other systems that are cited hereinafter, the objects in this case are named such that their names have a beginning letter of the musical alphabet. This beginning letter is used to connect each object to a musical note via the common letter of the object and the musical note. Then the objects are used to connect the notes to the selected distinct colors that are not purposefully named such that their names begin with the common letter. The objective is to associate color to the notes in order to learn and remember the notes. As a main embodiment of the invention, and as another mnemonic device to aid in the remembering of the objects, each of the objects has been developed

into a 3-dimensional puppet cartoon that is endowed with a distinctly identifiable personality characteristic. This system, although seemingly facilitating memorization, actually requires the student to memorize several layers of associations. First, one must memorize the names of the objects, then the names of their assigned colors, and then make a connection to the notes, since it is the objects that have the direct connection to the notes via the naming. In the specific representation of the invention, there is evidence of how every extra layer can create learning hurdles rather than expediting learning. The object used often not only does not readily provoke the colors that they are designated to represent, but can lead the student astray. For example, the object "grapes" represents green, yet "grape" is a color usually associated with purple. The object "fruit" represents purple, and yet "fruit" has a natural association to many fruit colors. The object "Easter egg" represent yellow, but actually has an association with an arbitrary myriad of colors, since individual Easter eggs are often colored with more than one color. The other objects of the example invention relate fairly well to the colors they are associated with, but still create an unnecessary extra layer away from the goal of connecting note name to note symbols on musical compositions and note locations on instruments.

The system according to Hale is somewhat cumbersome in that it apparently requires the creation of new objects for each note. For example, there is a "crabapple" cited for middle "C", and a "cherry" for the "C" above middle "C". In addition, Hale suggests, without being specific, that sharps and flats be represented by some variation of these object shapes. Because there are no example given beyond the eight objects Hales teaches, this would mean, for example, that for the piano one would have to create and memorize 80 more, appropriate colored objects occurring naturally in the color

represented beyond the eight described. This would be even more complicated if one keeps to a theme and these 80 new objects must be fruits, in keeping with Hale's example. Hale further states that musical scores could be created with the colored notes and that note locations on instruments are to be marked with colored scale letters. There is, however, no provision for the representation of a particular note's pitch change on these colored note scores and instrument note location markers. For example, one must identify which red "C" note is being represented on a score or an instrument, the "crabapple "C"," the "cherry "C"," or one of the other red object "C"'s that must be created and remembered, etc. Finally, Hales describes, but does not demonstrate how the note location markers might be applied to an instrument.

U.S. Patent #1,526,547, issued February 17, 1925 to Hughey for *Instruction Set* teaches a system set up as a chart on which a representation of a keyboard, three staves, and a pitch-marker duration line is represented. Colored note location markers or stickers for each of the seven scale notes are placed on the represented keyboard keys. In practice, these stickers are then matched to note symbol locations on the first staff that are identified with colored pushpins. Same-colored bird images may be hung on these pushpins. Next, the stickers are matched to colored thumbtacks at note symbol locations on the second staff. Lastly, the stickers are matched to staff note symbols that are actually colored, on the final staff. In addition to the above, pitch-marker duration images are provided to graphically show note duration. Hughey's system is more layered than necessary. One must relate color to object to note. In addition, although the objects and notes are colored the same, there is no other connection to the names of the notes, such as the naming of the objects or colors so that the first letter of these would match the

seven letter names of the musical alphabet. Hughey's system also makes no provision for differentiating the specific octave location of a particular note so that it is clear which colored note location marker on the keyboard matches which colored note symbol on the staff. Hughey's system is also limited to use as a music instruction chart, making it rather inflexible and not readily adaptable for other forms such as more sophisticated manifestations that would appeal to adults or to usage on a variety of instruments in combination with a variety of musical composition manifestations. Finally, Hughey's system does not use color to indicate other musical structures such as the compositional key or sharps and flats.

U.S. Patent #5,546,843, issued August 20, 1996 to Degaard for *Piano Key Identification System* teaches the labeling of piano keyboard keys with a sticker that relates the keyboard key to the grand staff by marking. The keyborad key has on it a representation of a five line staff, the clef that the keyboard key's note is in, a whole note in its proper location on the staff representation, the note letter name, and the solfege for the note. Thus, the keys are related to the grand staff by marking. This system is limited to use with a keyboard, or an instrument with large note locations, since the note location markers must be large enough to legibly accommodate the required staff lines, clef symbols, etc. Also, the system uses no color. Because of this, the system is limited. The duotone black and white as described in the specification doesn't differentiate elements in the way the use of color can. The note location markers represent whole note symbols at what appears to be the beginning of the staff because of the note's proximity to the clef sign. This is somewhat misleading when one is attempting to locate a note key on a keyboard that corresponds to a note symbol on a musical composition, since most note

symbols on a musical composition are not next to the clef sign. The whole note symbol on the instrument note location marker is always sitting next to a clef sign that shows no sharps or flats of a time signature. This leads one to possibly think that the note can be matched with only compositional notes in the key of "C" or "A" minor. As represented, the system can be used only for the compositional key of "C," since the "DO" solfege term of the instrument note location markers is on the "C" note, "RE" is on the "D" note, etc. For this system to work for another compositional key of, say, "D," "DO" would need to be on the "D" note location marker, "RE" on the "E" marker, etc. Finally, the instrument note location marker description makes no allowances for ledger notes other than middle "C." The markers are described only as having five staff lines.

U.S. Patent #2,447,213, issued August 17, 1948 to Sledge for *Musical Educational Appliance* teaches an apparatus on which a grand staff and keyboard are represented. Small movable "houses" sit at the end of each of the staff lines. These houses are each colored a different color, and have on the roof, the note letter of the staff line they mark. The colors of the houses are, "B" – white, "C" – red, "D" – orange, "E" – yellow, "F" – green, "G" – blue, and "A" – purple. Flat movable pieces in the shape of animals are also provided. These are named so that the first letter of each of the names matches one of the seven letters of the musical alphabet. The animals and the letter are; a bear for "B," a cat for "C," a dog for "D," an elephant for "E," a fox for "F," a goose for "G," and an ape for "A." A panel, used like a label on each animal image contains the letter that matches the animal name to the musical alphabet letter. The panel is also colored to match the house of the color its letter matches. Movable note symbols are also provided such that they can be removed after a student learns the staff lines via the house

and animals. The houses are placed on the represented keyboard to teach the pairing of note location on the keyboard with note symbols on the staff. Sledge's invention is configured as an apparatus that is limited to a very rudimentary musical structure instruction. Sledge's invention is more layered than necessary. Two different sets of objects are related to notes and to colors. In fact, a theme involving towns and streets further complicates the system. The objects are named to match the notes, but there is no direct relationship to the colors. This is confusing, for example, the "G" note uses the blue house and is associated with the goose although geese are usually white, whereas the white color is associated with "B note." The "B" note is associated with the bear, although bears are usually brown. The "F" note is associated with the green house and the fox, although foxes are usually red or gray; the elephant, which are usually gray, is associated with the "E note," and yellow house. Sledge's invention makes no provision for the matching of a specific note on the keyboard with a specific note on the staff. For example, because all the "C"'s are represented by the red cat, there is no direct way to tell which "C" on the staff that the red cat image on a keyboard note is representing: middle "C," the "C" above middle "C," the "C" below, etc. Finally, Sledge's system is oriented toward very small children only, and doesn't address sharps and flats, composition key, or key signature.

U.S. Patent #1,201,769, issued October 17, 1916 to Siegel for *Toy Piano* teaches a plurality of different animal images on composition card charts that are paired with a plurality of different animal images on note keys of a keyboard. The number of keys on the keyboard apparently defines the number of animal images used. Card chart compositions are provided with the animal images printed in rows across the chart.

These animal images represent the notes of the musical piece. The composition is played by pressing the animal marked keys in the order that they are printed on the chart from left to right. Siegel's system is very rudimentary, and apparently intended for a very limited keyboard. Nevertheless, the number of animal images one must learn makes the system cumbersome. Siegel's system has very little relationship to standard compositional music. The keyboard represented has no sharps or flats, and the composition has no staves, or note symbols, or other features of standard musical compositional structure. These deficiencies actually lead one astray, as one is learning only note names and tones without any structure, and without the sharps and flats that are an integral part of the twelve basic notes of western music.

Thus, there remains a need for a music learning system with reiterative mnemonic characteristics that can denote specific octave locations without changing the reiterative characteristics of the system.

DEFINITIONS

1. Note: A general a term. It is used to refer to a tone or Note Letter Name (see "2" below) or Note Symbol (see "4" below) – where these are clearly understood.
2. Note Letter Name: A, B, C, D, E, F, and G
3. Note Tone Representation: The representation of the actual sound produced by an instrument. Note Tone Representations include Note Symbols (see "4" below) and both Note Location Identifiers and Note Formation Identifiers (see "5" below).
4. Note Symbol: A conventional note symbol on a staff, ex: o , or other note symbol representing a note such as lyric syllables, letters, dots, etc. that are used on alternative compositional structures.

5. Note Location Identifier: A marker that is used to physically identify where a note originates on an instrument. This identifying is done by marking the location where the note originates (by striking; stopping; fretting; exhaling or inhaling in a hole, and the like) on the instrument.

6. Note Formation Identifier: A diagram showing the configuration of how a note is originated by the grouping of keys and holes, or valves; slide position plus partial, if necessary; and the like. The diagram is usually placed directly beneath a Note Symbol on staff or other Musical Composition structure.

7. Stylized Image: The stylized animals, or other images – personified as characters that are used to enhance identification of the note tone represented by a Note Symbol or Note Location Identifier or Note Formation Identifier. The image may derive from fauna, flora, or objects.

8. Musical Composition: Any production of music using Note Symbols of any kind.

9. Staff or stave: The five lines and spaces of the "staff." "Staves" is the preferred plural form. It is preferred that "staff lines" be used when referring to the lines, as the spaces are included in "staves," and "staves" is also used to refer to the inclusion of all the elements of a staff, such as clef symbol, etc.

10. Pitch marking: Describes the entire system of pitch marking, including reference to the "middle C" octave, which is sans pitch marks.

SUMMARY OF THE INVENTION

The present invention is an innovative method for teaching and learning music. The system uses coding to enhance recognition and learning of musical structures, and to

aid in a more rapid mental connection between note symbols on musical compositions and the source of their production on instruments.

The invention is a more efficient system, especially in its preferred embodiment, than those previous to it of similar genre in that it uses fewer elements, only the seven named colors, plus pitch marking, as the basic foundation of the system. And while the system is easy to learn, its very simplicity facilitates a sophisticated flexibility in its application.

As stated above, the preferred embodiment of the invention uses seven specially named colors for the color coding of the system. To create the color coding system, these colors are each given a name beginning with a letter of the musical alphabet and are paired with the musical note of the same letter name. This enables the identification of the seven basic foundation natural notes of western music. To complete the identification of the twelve fundamental notes of music using the coding system, sharp (#) and flat (b) symbols are added to the natural notes' representations, whether that be a letter, a note symbol on a musical composition, or a note location or formation identifier of an instrument, et cetera.

In a preferred embodiment of the invention, the pitchmarking system is manifested as vertical dashes that are placed to the left or right of a note representation to denote the octave location of the note represented. These pitchmarks are assigned to the octaves such that the notes of the base octave of the pitchmarking system, which is the "middle C" octave, have zero pitchmarks, and the other octaves have pitchmarks that increase in number as they move away from the base octave. Thus the notes of the first

octaves below and above "middle C" have one pitchmark, the notes of the second octaves below and above have two pitchmarks, et cetera.

Another example of the use of the color coding system in a preferred embodiment of the invention includes the color coding of components of both standard and alternative visual musical composition structures to indicate the compositional key of a composition. This aids in the more rapid recognition and learning of the keys of music as well as easier playing of musical compositions.

Still another preferred embodiment showing the method of use of the color coding is the coloring of the sharps and flats of key signatures to aid in the recognition of those notes sharped and flatted in key signatures, and in the recognition of the key signatures each by their color pattern.

In addition to the coloring and pitchmarking of the system, another aspect that aids further in the learning of music is the use of stylized images in the form of fauna, flora, and objects that are also named as the colors are, such that their first names each begin with a letter of the musical alphabet. These stylized images are particularly useful for the teaching of children because they can be animated, and thus add excitement. A preferred embodiment of stylized images is presented in the detailed description of the invention.

These and other aspects of the present invention will become apparent to those skilled in the art after a reading of the following description and a review of the figures thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig 1 shows an example of a musical grand staff and note symbols that are paired to note location identifiers in the preferred embodiment on a plan view of a piano keyboard.

Fig 2 shows the basic set of note location identifiers for natural notes in the preferred embodiment for keyboard. The figure also shows how the pitch marking system works using the natural note location identifiers.

Fig 3 shows the basic set of note location identifiers for sharp/flat notes in the preferred embodiment for keyboard. The figure also shows how the pitch marking system works using the sharp/flat note location markers.

Fig 4 shows an example of a musical grand staff, illustrating the coloring of time signatures, rests, and dynamic symbol to define the composition's key color. Also shown is an example of the special coloring of the key signature.

Fig 5 shows examples of note location identifiers applied to a violin fingerboard.

Fig 6 shows examples of note location identifiers applied to a guitar fingerboard.

Fig 7 shows an example of a note formation identifier in the form of a fingering diagram with a sounded note identifier for clarinet.

Fig 8 shows examples of note formation identifiers in the form of fingering diagrams with a sounded note identifier for trumpet.

Fig 9 shows examples of note formation identifiers in the form of slide positions plus partials with sounded note identifiers for trombone.

Fig 10 shows examples of note formation identifiers in the form of exhale/inhale indicators for a basic ten-hole harmonica.

Fig 11 shows an example of a note location identifier in the form of a chord grid for six-string guitar.

Fig 12 shows an example of a note location identifier in the form of a tablature for five-string banjo.

Fig 13 shows an example of an alternative to the standard musical staff composition method.

Fig 14 shows another example of an alternative to the standard staff composition method.

DETAILED DESCRIPTION OF THE INVENTION, INCLUDING THE PREFERRED EMBODIMENT

The present invention is a coding system for the learning and playing of music. This coding system is applied to the structures of visual musical compositions, as well as to the note symbols that represent tones in those visual musical compositions. Further, it is applied to the note location identifiers and note formation identifiers of instruments that represent those tones' production. The purpose of the system is to aid the student in more rapidly recognizing, and therefore learning, the musical structures, as well as more rapidly making the connection between the note represented on a musical composition and the exact manner of production of that note on an instrument.

The coding is constructed from specially named colors and a pitch marking system that are used both together and separately to aid in the more rapid recognition of musical structures, as well as in the pairing of note symbols on visual musical compositions to note location identifiers and note formation identifiers to enable the production of musical tones.

More explicitly, the specially named colors of the coding system are named such that each of the colors' names begins with a letter of the musical alphabet; A, B, C, D, E,

F, G. In a preferred embodiment of the invention, there are only seven colors that act as the basic foundation of the system. Each of these colors is paired with one of the seven notes of the musical alphabet via the common letter. This pairing, by reiteration of the common letter of the color and the note, acts as a strong, efficient mnemonic device that enables rapid association of the color to the note, especially since there are no intermediate devices between the color and the note that must be remembered in order to make the connection. For the completion of the color-coding of the twelve basic notes of western music, sharp and flat symbols are simply added to the color-coded notes. This is explained in more detail later on in this description.

In the preferred embodiment of the invention, the colors and their matching musical notes are; "amethyst" for "A", "blue" for "B," "carrot" for "C," "diamond" for "D," "electric" for "E," "flame" for "F," and "green" for "G."

To further define the universe of western musical notes, the pitch marking coding system delineates the exact pitch of notes by indicating their particular octave location. In the preferred embodiment of the invention, this is built on the "C" octaves, with the "middle C" octave designated as the base octave.

In the preferred embodiment of the invention, the pitch marking coding is manifested as a vertical dash pitch marking system for delineating the octave location of notes on musical compositions and on instruments. These dashes are placed next to the note symbols on musical compositions, and note location identifiers and note formation identifiers for instruments. They indicate the "C octave in which a note is located. The base octave, or octave of reference, is the "middle C" octave. The notes of this "C" octave have no pitch marks assigned to them, while the notes of the other "C" octaves are

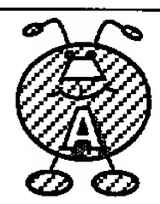
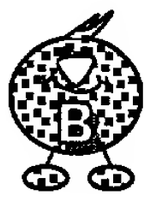
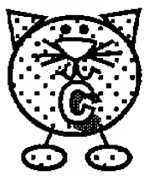
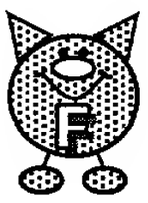
identified by pitch marks, starting with one pitch mark for the first "C" octave above, or below the "middle C" octave. Pitch marks are added to indicate the "C" octave in relationship to the "middle C" octave. To designate the "C" octave notes that are higher than the "middle C" octave, the pitch marks are placed on the right side of the note location identifiers of the instruments and note symbols of the staves. To indicate the "C" octave notes that are lower than the "middle C" octave, the pitch marks are placed on the left side of the note location identifiers and note symbols of the staff.

In a preferred element of the invention, the pitch marks are place to the right and left of the note(s) as described above. In addition, the placement of the pitch marks to the right of dotted note(s), when the pitch marks indicate the note(s)' location to be in an octave above the base octave, is also within the scope of the present invention.

Another preferred embodiment of the invention incorporates stylized images as an added mnemonic device to enhance the recognition and remembering of the note tones represented by note symbols on musical compositions and note location and formation identifiers of instruments. The images are named such that the first letter of their names is a letter of the musical alphabet, just as the coding colors described already. In general, these images may be of fauna, flora, or object source, and may all be used in the invention as long as their names begin with one of the letters of the musical alphabet.

In the preferred embodiment represented here, the stylized images are of animal variety. The names of these and the colors of the system, as well as the note that they are related to, are illustrated in the following table.

Table 1. Example according to the preferred embodiment that demonstrates the association of musical note with color and stylized animal image.

Note	Color Name	Note Animal Image Name	Color Name + Note Animal Image Name	Note Animal Image
A	Amethyst, a purple hue	Ant	Amethyst Ant	
B	Blue, a blue hue	Bird	Blue Bird	
C	Carrot, an orange hue	Cat	Carrot Cat	
D	Diamond, a gray hue	Dog	Diamond Dog	
E	Electric, a yellow hue	Eel	Electric Eel	
F	Flame, a red hue	Fox	Flame Fox	
G	Green, a green hue	Gator	Green Gator	

According to the present invention, preferably the structural components of the musical staves of a musical composition are colored to represent the composition's key color. This is achieved by coloring the components the same color as that assigned to the note of the same name as that of the key of the musical composition. This special coloring of the staves facilitates ready identification of the key of a composition, even before one can read the key signature. The structural components that are colored include; the brackets, staff lines, clef symbols, time signatures, bars, rests, dynamic symbols, and the like. One structural component of the staves is not colored the compositional key color, that is the key signature. It is treated in a special manner designed to further inform a student. This is described in the next paragraph.

Additionally, in a preferred embodiment according to the present invention, the key signature is represented with its sharps or flats each colored the color of the note that is being sharped or flatted. For example, if the key of a musical composition is "D," which has an "F#, C#" key signature, the "F#" note symbol is colored "flame," and the "C#" note symbol is colored "carrot." This special coloring enables the key signature notes to be quickly recognized.

To further aid the student in recognizing, remembering, and differentiating the animal images and their names, another preferred embodiment includes distinguishing marks on the images. These marks, as seen in the table above, include stylized ears, feather tuft, and other appendages. These can be applied both to the note symbols of the musical compositions and to note location and formation identifiers of musical instruments, thus creating another visual matching element between the musical composition and instrument that enables the playing of tones. This same distinguishing

mark method can be applied when using other images in the system for the same purposes.

Relating to the introductory paragraphs describing the color coding of the twelve notes of music, another preferred embodiment of the present invention assigns the same named color to the sharp and flat location identifiers and note formation identifiers of instruments as that assigned to their natural notes. The sharps and flats are differentiated from their natural note by their sharp (#) and flat (b) symbols. The note symbol on the staff representing a sharped or flatted note is treated in the same manner.

My preferred embodiment includes distinguishing marks on the images. These marks include stylized ears, feather tuft, and other appendages. These can be applied both to the note symbols of the musical compositions and to note location and formation identifiers, thus creating another visual matching element between the two that enables the playing of tones. This same distinguishing mark method can be used with other images that may be utilized in the system for the same purposes.

In the preferred embodiment of the invention the pitch mark coding is manifested as a vertical dash pitch marking system that facilitates the delineation of precise notes on musical compositions and on instruments. These dashes are placed next to the note symbols on musical compositions, and note location identifiers and note formation identifiers for instruments. They indicate the "C" octave in which a note is located. The base octave, or octave of reference, is the "middle C" octave. The notes of this "C" octave have no pitch marks assigned to them, while the notes of the other "C" octaves are identified by pitch marks, starting with one pitch mark for the first "C" octave above, and one pitch mark for the first "C" octave below the "middle C" octave. Pitch marks are

added to indicate the "C" octave in relationship to the "middle C" octave. To differentiate the "C" octave notes that are higher than the "middle C" octave, the pitch marks are placed on the right side of the note location identifiers of the instruments and note symbols of the staves. To indicate the "C" octave notes that are lower than the "middle C" octave, the pitch marks are placed on the left side of the note location identifiers and note symbols of the staff.

Referring now to the drawings in general, the illustrations are for the purpose of describing a preferred embodiment of the invention and are not intended to limit the invention thereto.

Figures 1 through 4 illustrate the preferred embodiment of the system, including the note location identifier system of the invention for a piano keyboard (**30**), as well as the composition note symbols (**38**), and the color-coded musical grand staff (Figure 1, **31**; Figure 4, **97**). Figure 1 shows an example of the note location identifiers (**32**) paired with an example of a standard musical grand staff (**31**) which has its structural components colored in the compositional key color which is the color assigned to the note of the same name. In this case, the compositional key is "C," and since the color designated to "C" in the system is "carrot," the components are colored "carrot." The components include the treble clef (**40**), bass clef (**41**), staff lines (**43**), bracket (**46**), and time signatures (**47**). Other examples of components of the staff that are designated in the system to be colored the composition key color are shown in Figure 4. These include another example of the time signature (**93**), the dynamic symbol (**94**), and the rest symbol (**95**). Since the composition key on the grand staff of Figure 4 is "A," all of these elements are colored "amethyst." Additionally, an example of the special coloring of the key signature is

shown (**92**). As has been described, the key signature's sharp/flat symbols of the preferred embodiment of the system are colored the color of the note they represent as being sharped or flatted. In this case, the "A" key signature has three sharps, "F, C, & G"; therefore, these are colored "flame," "carrot," and "green," respectively.

In both Figures 1 and 4, the example of the preferred embodiment of the grand staff shows the lines and spaces of the staves marked with their musical alphabet letter name, and with each of these letters colored its note color (**44**).

The example of the note location identifiers of Figure 1 shows the preferred embodiment for piano keyboard. This example presents the identifiers in the seven preferred colors (**45**), with their proper pitch marking (**39**), as well as their note letter names (**33**). The sharp/flat identifiers are presented with their sharp (#) and flat (b) symbols.

The natural, or white key, notes have one identifier each (**32a**), and the sharp/flat, or black key, notes have two identifiers each (**32b** & **32c** respectively). The sharp/flat keys are identified this way to demonstrate their relationship to the natural notes that they are sharping or flatting. Thus, for example, the sharp/flat black key note for "C#" and "Db" has an identifier which is colored both "carrot" (**32d**), just as is the natural "C" note it sharps, and "diamond" (**32e**), just as the "D" note it flats.

Each of the identifiers is further differentiated by their pitch marking. Figure 1 shows an example of the identifiers, starting from the "A#/Bb" black key, located in the "C"octave that is just below the "middle C" octave, and continuing to the "C#/Db" black key that is located in the "C" octave that is just above the "middle C" octave (**32**). In this group, it can be seen that the "middle C" octave identifiers of the system have no pitch

marks. This is the base octave of the pitch marking system. Both below, and above, the "middle C" octave, two notes are shown. The two below – a sharp/flat black key, and a natural white key, have one pitch mark (**39**) to the left of their note letter name, indicating that they are in the first "C" octave below the "middle C" octave. The two identifiers above, also a sharp/flat key, and a natural key, have one pitch mark (**39**) to the right of their note letter name, indicating that they are in the first "C" octave above the "middle C" octave.

Examples of the complete pitch marking system are shown in Figures 2 and 3. Figure 2 shows the system on the natural notes (**63**), and Figure 3 shows it on the sharp/flat notes (**82**). Continuing with the premise of the pitch marking system that is explained in the last paragraph; for both the natural and sharp/flat notes, a pitch mark (**39**) is added to a note location identifier as the note it represents is located in another "C" octave further below or above the "middle C" octave. Thus, as is shown in Figure 2 – using the note location identifiers for the natural "C" note as the example; the identifier for the natural "C" note in the second octave below the "middle C" octave has two pitch marks to the left of its note letter name (**68**), the identifier for the natural "C" note in the third octave below the "middle C" octave has three pitch marks to the left (**66**), and the identifier for the natural "C" note in the fourth octave below the "middle C" octave has four pitch marks to the left (**64**). This same pattern is followed for the pitch marking to the right for notes located in octaves above "middle C" , except that the pitch mark is now placed to the right of the note letter name. Thus, the natural "C" identifier in the second "middle C" octave above the "middle C" octave has two pitch marks to the right of its note letter name (**76**); the natural "C" identifier in the third octave above has three (**78**);

and the natural "C" identifier in the fourth octave has four octaves to the right of its note letter name (**80**).

Figure 3 shows the pitch marking pattern to be the same for the sharp/flat notes(**82**) as that explained above for the natural notes. In this example, the "A#/Bb" note identifiers are illustrated. Beginning again with the identifier for the note two octaves below the "middle C" octave, this identifier for the "A#/Bb" note has two pitch marks to the left of its note letter name (**85**). The identifier for the "A#/Bb" note three octaves below the "middle C" octave, has three pitch marks to the left (**84**), and the "A#/Bb note four octaves below the "middle C" octave, has four pitch marks to the left of its note letter name (**83**). As in the paragraph above that describes the pitch marking of natural notes, the same pattern is followed for the pitch marking of sharp/flat notes above the "middle C" octave – that is, the pitch marks are now placed to the right of the note letter name. Thus, the "A#/Bb" note identifier in the second octave above the "middle C" octave has two pitch marks to the right of the note letter name (**89**). Finally, the "A#/Bb" note identifier in the third octave above the "middle C" octave has three pitch marks to the right of its note letter name (**90**). There are no sharp/flat notes in the fourth partial octave of the piano.

Referring again to Figure 1, the note location identifiers of the preferred embodiment are manifested as colored stylized animal characters (**32**) that are named with names that start with the same letter as the note letter they represent. They are stylized to be uniform in appearance with a shape that is round, reminiscent of a whole note with an oval variation for the narrow sharp/flat identifiers of the black keys on the piano. In addition, they each have at least one unique head projection (best shown in

Figure 2 as **42a, 42b, 42c, 42d, 42e, 42f, 42g**) that acts as a distinguishing feature that aids in their identification of one from another, and, along with their color, in their pairing with the note symbols on musical compositions.

The basic set of note location identifiers for the natural notes are shown in Figure 2 (**50**); while the basic set of note location identifiers for the sharp/flat notes are shown in Figure 3 (**81**). The colors and names of the natural and the sharp/flat note location identifiers are the same, except for the "sharp" or "flat" that is added to the natural name to denote the sharp/flat identifiers. As has been stated in Table 1, the color and animal names are: "carrot cat," for "C" (**51**), and "C#"; "diamond dog" for "D" (**52**), "D#," and "Db"; "electric eel," for "E" (**54**), and "Eb"; "flame fox," for "F" (**56**), and "F#"; "green gator," for "G" (**58**), "G#," and "Gb"; "amethyst ant," for "A" (**60**), "A#," and "Ab"; and "blue bird," for "B" (**62**), and "Bb." The distinguishing features of these characters include stylized ears on the cat (42c), dog (42d), and fox (42f); feather tuft on the bird (42b); electric fin on the eel (42e); head bumps on the gator (42g); and antennae on the ant (42a).

The aspects of the note location identifiers described above, especially their colors, pitch marks, distinguishing features, and sharp/flat symbols, are used in the system to match them with note symbols on musical compositions. In the preferred embodiment, they are matched with standard musical note symbols that have also been colored, pitch marked, sharped/flatted, and are with or without distinguishing features. In Figure 1, the note symbols (**38**) representing the same notes as the identifiers described already (**32**) have all of the elements referred to in the last sentence. These note symbols, as shown in the figure, are individually paired with the note location identifiers that have

the same mix of these elements. Thus, for example, the "diamond dog Db" (**38c**) note symbol of the "middle C" octave is paired with the "diamond dog Db" (**32e**) note location identifier of the "middle C" octave. Since they are in the "middle C" octave, which is the base octave of the system, they have no pitch mark.

The structures of the system described for the keyboard are versatile and, with modification, allow the system to be used for a number of instruments. Examples that follow include embodiments for string instruments, woodwind instruments, brass instruments, and harmonica. Figures 5 and 6 show examples of the note location identifiers on string instruments. The concept used for these two instruments would work for most string instruments, with changes made for the number of strings, the beginning note of the first string, the tuning of the instrument, and whether an instrument has frets or not. Figure 5 shows an example of the note location identifier system applied to the violin fingerboard (98). Shown on the fingerboard example are note location identifiers for the "G" note in the "C" octave below the "middle C" octave, rising to the "G" note in the "C" octave above the "middle C" octave. The identifiers (**99**) are simple squares representing the location (**104**) where the notes identified are "stopped," meaning where the finger is pressed on the string to produce the note with bow or by plucking. These squares are colored their note color of the system, and are pitch marked (**39**) to the left or right, where required, to indicate the "C " octave in which they are located. In addition, all have their own note letter (**33**), and the sharp/flat notes their sharp (**35**)/flat (**36**) symbols. Figure 6 shows an example of the note location identifier system applied to the guitar fingerboard (**105**). Again, squares, as those described for the violin, are used, but for the guitar example they are applied at the frets (**111**). The frets are the places where

the finger is pressed to determine the string length so that a note tone can be sounded by the plucking or strumming of the string. Shown on the example of the guitar fingerboard **(107)** are examples of the note location identifiers of the system. They are marking the note locations on the guitar fingerboard, starting with the lowest "E" note on the guitar, which is the "E" note in the second "C" octave below the "middle C" octave, and rising to in the "E" which is in the "middle C" octave **(106)**.

Figure 7 shows an example of the note formation identifiers of the present invention for woodwind instruments. Because woodwinds and brass instruments use the reconfiguration of keys and holes to form and produce different notes, it is not practical to apply note location identifiers directly to the instrument to identify the location on the instrument where a note originates. Instead, note formation identifiers, in the form of fingering diagrams that represent the configurations, are applied directly to musical compositions, below the staff, as shown in Figure 7. The example shown in Figure 7 to depict the note formation identifier solution for the woodwinds is a fingering diagram for the "Bb" clarinet. The fingering diagram **(112)** shown is similar to those that are customarily used, but with variations unique to the system of the present invention.

In the fingering diagram example of Figure 7, the twelve keys are marked by numbering, "1" through "12" **(113)**; while the seven holes are unnumbered **(114)**. To enable a player to identify the keys or holes to be fingered for producing a certain note, the diagram shows the key and hole representations that are to be activated for the production of that note to be colored in the color assigned to the note. In the example, the note described by the fingering diagram is "E", therefore the keys and holes to be activated are colored "electric," the color designated by the system to represent "E." To

further identify the note that is being sounded, the proper pitch marking of the system is placed to the left or right of the fingering diagram in similar fashion to that shown previously for the keyboard and string instrument note location identifiers. And like those, the pitch marking indicates the "C" octave where the note is located. Therefore, since this "E" note is in the first "C" octave below the "middle C" octave, it has one pitch mark (**39**) to the left side of the fingering diagram. The staff note that it is matched to is shown in the example (**119**). It is also colored "electric," and has one pitch mark (**39**) to the left.

Since the woodwind instruments are transposing instruments, meaning the note configuration read on the staff is different from that actually sounded, a "note sounded identifier box" (**116**) is provided that identifies the actual note played. In the example shown, the note actually sounded is a "D" note, therefore a "diamond"- colored disk (**117**) with a "D" letter (**33**) on it is represented in the box. Since this "D" note is in the same octave as the "E" note of its fingering diagram, it also has one pitch mark (**39**) to the left.

It is noted for elucidation, that embouchure is a part of the production of a sounded note for both the woodwinds and brass instruments. It encompasses the use of the structures of the mouth, plus the control of air exhaled into the instrument.

Figures 8 and 9 show examples of the note formation identifiers for trumpet and trombone. The note formation identifier concept used for the trumpet would work for most brass instruments that use valves and embouchure alone to produce notes. This includes both cylindrically shaped instruments like the trumpet, and conically shaped instruments like the cornet. The note formation identifier concept for the trombone could

be applied to brass instruments that are conical in shape and which change the length of the instrument's tube by a slide mechanism similar to the trombone. Since these brass instruments are transposing instruments, as the woodwinds discussed above, a "note sounded identifier box" is provided in conjunction with the note formation identifiers to identify the actual note played by the instrument versus the note indicated by the fingering diagram.

In Figure 8, a plurality of fingering diagram identifiers (**120**) for the "Bb" trumpet is shown. The identifiers consist of representations for the three valves of the trumpet (**125**), plus pitch marking (**39**), plus a note sounded identifier box (**116**), and the musical alphabet letters (**33**) of both the fingering diagram note and the actually sounded note that is indicated by the "note sounded identifier box." The valve representations show the valves that are to be pressed to produce a certain note. This is shown by coloring the valves to be pressed the color that the system assigns to the fingering diagram note that they are depicting.

In the first example of the four fingering diagrams shown, the note configuration to be produced is a "C" fingering diagram note. To form this note, no valves are pressed; therefore, in the example, only the outlines (**126**) of the notes are colored "carrot" to indicate that the note configuration to be produced is a "C" note configuration, but that the valves are not pressed. As can be seen in the other fingering diagrams (**120**), when a valve is to be pressed, the valve representation is colored solid. Continuing with the first fingering diagram, consistent with the system's left and right pitch marking that indicates "C octaves" below and above the "middle C" octave, one "carrot"-colored pitch mark (**39**) is placed to the left of the fingering diagram to indicate that the "C" note that is

made is in the first "C" octave below the "middle C" octave. The actual note sounded when this "C" note configuration is activated, is the one identified in the "sounded note identifier box" (**116**). In this case, the sounded note is a "Bb" note located in the "C" octave just below that of the fingering diagram "C" note. This note is identified by the "blue"-colored" disk (**117**) and the "Bb" note letter (**33**). It's "C" octave location is indicated by the two "blue" pitch marks (**39**) to its left.

The note formation identifiers for the "Bb" trombone are exampled in Figure 9 in the form of slide position identifiers (**127**). These slide position identifiers include a number for one of the seven base slide positions (**131**), a partials indicator (**132**), a note sounded identifier box (**116**), and note letters for both the slide position note and the note sounded. The color and pitch marking system of the invention is applied to these.

In the first of the seven slide position identifiers shown in the example, the note represented is the "F" (**133**) that is in the "C"octave that is immediately above the "middle C" octave, therefore it has one pitch mark to its right, just as its "flame"-colored note symbol on the tenor clef (**128**) staff does. The number "1" (**131a**) that represents the base slide position of this "F" note, as well as the pitch mark (**33**) that represents its octave location are colored "flame" to represent the "F" note. The actual note sounded is an "Eb," therefore the disk (**117**) in the note sounded box as well as its pitch mark (**33**) are both colored "electric." The partial indicator (**132**) located at the foot of the base slide position number directs the player to adjust the slide to compensate for the change that occurs in the ratio between the cylindrical portion of the slide and the conical portion when positions are changed. There is a fairly consistent pattern to the minor adjustments that must be made. The basic increment is indicated by the smallest unit of the partial. In

the case of the first slide position identifier being discussed here, the partial indicator indicates an adjustment of two increments that lengthen the tube to adjust for a slight sharpening of the note that occurs in this position.

Figure 10 shows an example of the system of the present invention applied to the harmonica. The harmonica falls into, and is representative of, the category of unique instruments; others include the accordian, the bagpipes, etc. These instruments do not fall into a pattern for the method of producing a note as do the keyboard, strings, brass, and woodwinds. Therefore, though the harmonica represents the category, each instrument can be treated individually in applying and/or adapting the system according to the present invention to those instruments.

In Figure 10, a note location identifier system applied to the harmonica (**134**) is shown. The concept for the identifiers that is used for this particular ten hole harmonica, the marine band type (**135**), could be used with slight variation for most harmonicas. The note location identifiers (**137**) shown are designed as rectangles which are divided into two sides, one upper (**138a**), and one lower (**139a**). The upper side has an exhale symbol (**138**) which is a stylized pointer indicating that the player should blow to sound the note tone indicated by the note location identifier. This tone is identified on the note location identifier by its note letter name (**33**), as well as its color and proper pitch marking of the system. The lower side has an inhale symbol (**139**), indicating that a drawing of air by the player will create the note identified. The note is identified in the same manner as that described for the note of the upper side of the note location identifier. The identifiers are attached to the harmonica in correspondence to the ten exhale/inhale holes (**136**) wherein

the notes are generated. An example of an affixed identifier (**140**) is depicted in perspective on the harmonica image of Figure 10.

Figures 11 and 12 show the system according to the present invention applied to two grid-like structures configured to be similar to fingerboards. These two structures are the chord grid, and tablature. They are usually printed directly on musical compositions, either above, or below the staff, or lyrics, or in the place of the staff. Figure 11 shows an example of the chord grid (**144**), which is a structure made up of horizontal gridlines that match the strings (**148a**) and vertical gridlines that match the frets (**148b**), or stop locations of a string instrument. As was explained above, in the description of Figures 6 and 7 for string instruments; the fret and stop locations are places where the finger is pressed to define the length of a string, and thus, the note that that string generates when picked, strummed, bowed, etc. The chord grid usually depicts a representation of a section of the fingerboard. On this section, the notes that make up the chord to be played are indicated. This section usually contains three or four fret or stop spaces, thus it is necessary that the location of the first fret be denoted so that the player knows where the notes indicated on the grid are located on the fingerboard. Customarily, a number below the first fret of the grid denotes this first fret of the grid.

The elements of the grid, using the system of the present invention, include a color-coded grid (**149**) with string lines (**148a**), fret lines (**148b**), a number (**147**) that indicates the location on the guitar of the first fret depicted by the chord grid, and a plurality of rectangular note location indicators (**145 & 146**). The grid and fret number are colored the color of the chord that is being represented to aid in rapid identification of the chord. In this example, they are colored "green," because the chord depicted is "G,"

and "green" is the color of the present invention for "G." The note location identifiers represented on the grid are designed in the same manner as those for the guitar that were previously described in the description of Figure 6. They are rectangles that are color and pitch mark coded using the system of the invention. Thus, for example, the "G" note on the line of the grid that represents the sixth string (**149a**), is a "green" square with a "G" note letter (**33**), and because it is in the second "C" octave below the "middle C" octave, it has two pitch marks (**39**).

As stated above, Figure 12 shows an example of tablature. The example shows the first two bars of the musical composition "I've Been Working on the Railroad," to be played on the banjo (**150**). Tablature is a hybrid structure, combining elements of a fingerboard with elements of the musical staff. The components of the tablature presented, designed for the system of the invention, include horizontal lines that represent the five strings of the banjo (**157**); note letters naming the strings (**152**); a time signature (**93**); a vertical line representing a staff bar (**158**); fret number (**154**) note location identifiers (**153**) that pinpoint note locations by their string and fret location; and time duration marks for both a quarter note (**155**), and an eighth note (**156**) duration time. The string and bar representations (**157**) and (**158**), respectively, as well as the time signature (**93**) of the example, are colored "carrot" to indicate the compositional key of the piece to be played. The note letters naming the strings (**152**) are each colored their designated note letter color of the system. These note letters are also pitch marked to show the "C octave" in which they are located. Thus, for example, the fifth string is marked with a "green G" note letter name which has no pitch mark since the note is in the "middle C" octave. The fret numbers (**154**) are treated as note location identifiers (**153**) under the

system of the invention. They start with the number "0" to represent a string that is to be played open, or unfretted. They are each colored the color of the note they represent, and pitch marked to represent their "C octave." Thus, for example, the first note location identifier of the tablature presented is the "carrot" "1" (**159**). This means that the note is a "C" note that is formed in the first fret of the banjo fingerboard. It has no pitch mark, therefore it is in the "middle C" octave. To determine the time duration of the note, a time duration mark (**155**) is placed directly below the number of the note location identifier.

As has been stated, the system according to the present invention can be used not only as an embodiment of standard staff composition structures, but also as an embodiment of a variety of alternative composition structures, such as are shown in Figures 13 and 14. Figure 13 shows an example of a structure where the title of the composition is colored the key color so as to denote the key (**161**) of the musical composition, while the key signature is manifested as color-coded note letters, plus color-coded sharp symbols (**162**). In this composition embodiment, the actual lyrics are color and pitch mark coded to represent note symbols of a melody (**163**). These are in turn combined with color and pitch mark-coded note letter (**165**) groupings (**164**) that represent the accompaniment chords. In Figure 14, an illustration of another alternative structure shows the same title and melody format as Figure 13, but the key signature is now expressed as has been shown before for the standard staff (Figure 4, **92**). The accompaniment chord note groupings for this structure are expressed as simple color and pitch mark-coded disks (**167**). Time duration for both of these compositional structures is expressed using a system of rectangles in the same manner as that introduced in Figure

12 for the banjo tablature. The basic unit of this time duration system is the quarter note duration mark (**155**).

As is evidenced by the examples discussed above, this system is quite versatile in that it can be applied to a variety of musical composition formats and a variety of instruments. It also has been carefully designed so that it can be used in conjunction with readily available tools, and because it is a very simple, uncluttered system, it can be easily manufactured. Though it is a simple system, its very specifically designed elements make it unique from other existing color music systems in the facilitation of music understanding. It has been developed to aid the student to more efficiently recognize the connection between note location on an instrument and note symbol on a musical composition. It has also been designed for the player to more efficiently recognize the key of a musical composition, to comprehend and learn key signatures, and more readily comprehend the concepts of pitch, chord, octave, and other musical relationships via the coloring and pitch marking. This coloring and pitch marking also enables a quick comprehension of patterns, such as phrasing, in visual musical compositions. And because the sharp and flat note location identifiers of the instruments are colored the same as their respective natural note location identifiers, a clearer understanding of that relationship is readily made.

Because of the direct connections made via the specially named coloring and the pitch marking, the system reduces guessing and confusion as the student learns. This enhances learning speed while reducing frustration. Because of this, and because the system has been designed to be exciting, especially for younger pupils, the student is more likely to continue the study of music.

Though the chief purpose of the system is to teach a student the language and symbolism of conventional music, the system can also be used solely as a color music system to further enable the musician who is not inclined to learn standard musical nomenclature. The musician can comprehend the notes and their location on musical instruments using the coloring and pitch marking of the system and thus does not need to be able to read the classical music notation.

The present invention is highly flexible and can be used in an elementary manner such as for children, as well as in more sophisticated ways such as for adult instruction. Thus, the more elaborate animal image characters applied to elements of the system would likely be appealing to children, but a more streamlined system involving mainly color would likely be compatible with an adult's usage.

The system is efficient and easy to master because the user must memorize only the names of the colors, the first letter of each being a musical alphabet note letter, to make a connection to the seven natural note names that are the building blocks of the system. It is important to point out that though some of the names of the colors, excepting "blue" and "green," of a preferred embodiment of the present invention may appear to be object names, the names are all names of hues of the colors represented, and all but two names are in the English Thesaurus as color names. These two the inventor has coined. One is the color "diamond," which is a soft hue of gray, the choice of which is obvious, since diamond is a pure form of carbon. The other is the color "electric," which is a bright hue of yellow. This name has been chosen because of its strong associations with the yellow hues; e.g., the yellow electric light bulb and the yellow electricity symbol.

To use the system, one first learns the colors of the system and their special

names. Each special name begins with one of the seven letters of the musical alphabet. These names are then paired each with the musical note of the same letter name as the beginning letter of the name of the color.

After one has mastered the basic color and color naming system, one learns the pitch marking system of the invention, which defines the octave location of each note.

As a part of the preferred embodiment of the invention, one also learns the names of images, in the form of fauna, flora or objects, that are named such that the first letter of their names is also one of the seven musical letter names. These are also associated each with their paired musical note of the same name as the first letter of their names, as well as their color of the same name as the first letter of their names.

At this point, a musical instrument and a musical composition are provided that have the coloring, pitch marking, and where space allows, the image applied to them to enable the matching of note on instrument to note on musical composition via the coloring, pitch marking, and image, again, where space allows. Some instruments, such as string and keyboard, will have the actual note location marked on the instrument. Other instruments, such as brass and woodwind, will have the diagram of the configuration of the keys and holes to be engaged to produce the note, placed directly on the musical composition, below or above the note symbol of the composition. At this point, one can begin to play notes.

The musical compositions supplied with the system provide other information regarding the key of the piece of music; the time, the dynamics, note durations, rests, et cetera – in both conventional and unconventional manifestations. One learns these basic structures to enable the reading and playing of the composition. In addition, one learns

that certain structures of the composition on the composition page are colored the colors of the system to give more information to the student. Examples of this coloring are the coloring of the staff to indicate the key of the piece, the coloring of the sharp and flat symbols of the key signature to enable the recognition and learning of the notes that are sharped or flatted in a particular key signature, or the coloring of a chord grid to indicate the chord being represented by the grid.

Certain modifications and improvements will occur to those skilled in the art upon a reading of the foregoing description. All modifications and improvements have been deleted herein for the sake of conciseness and readability but are properly within the scope of the following claims.